

# Development of Teaching Materials Based on Project-Based Learning on Consumer Behavior Course in FE UNIMED

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**Abstract.** The Consumer Behavior course is one of the courses in the business education study program which is designed so that graduates of the Business Education Study Program understand consumer behavior in the real world so that it becomes a provision for graduates in business management. The Project-Based Learning model is a learning model that allows students to work independently or in groups in constructing their learning and applying it to real products. In general, this study aims to determine the level of feasibility and effectiveness of teaching materials based on Project-Based Learning in the Consumer Behavior course of the Business Education Study Program, at Universitas Negeri Medan to improve student learning outcomes. The type of research used is research and development with the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model. This book has been validated by 3 validators and the results show that the book has high feasibility but needs to be revised. After revising the book, a trial was conducted on a small group consisting of 10, 5th semester students taking the Consumer Behavior course. Based on the test results, the students' post-test scores were higher than the pre-test results.

**Keywords:** Teaching Materials, Learning Outcomes, Consumer Behavior

## 1 Introduction

The Business Education study program at the Faculty of Economics, Medan State University has a vision of being superior in the fields of business management education, marketing, and entrepreneurship skills programs. Apart from being professional teachers, Business Education study program graduates are expected to become business managers in management and entrepreneurship and are even expected to become MSME consultants. To achieve this competency, courses are provided, both theoretical and practical, one of which is the Consumer Behavior course.

The Consumer Behavior course is a course offered within the business education study program is designed so that graduates of the Business Education Study Program understand how consumers behave in the real world, so that it becomes a knowledge base for graduates in business management. Consumers are the key to the sustainability of a product, in fulfilling

human needs, so in a business, it is very necessary to understand how consumers behave. In economic activities, consumers are the final cycle of the flow of goods and services, from a production supply chain at the beginning. As users of goods and services produced by producers, the role of consumers is the most important. Without consumers, the entire supply chain will not work.

By studying consumer behavior, business people can develop their business through modern marketing principles that are oriented towards consumer needs. When a product or service is offered on the market but is not based on an analysis of consumer needs, through an in-depth study of consumer behavior, the product or service will not sell in the market. If this is done repeatedly, the company will experience losses. The strategic role of the discipline of consumer behavior is to offer various ways and methods so that business people can understand consumer behavior correctly so that when they want to release certain products or services on the market, these products or services can be accepted by the market satisfactorily.

Human behavior as consumers always changes and develops according to the progress of civilization. Therefore, Consumer Behavior courses need to be designed to be a learning process that is compelling, effective, and appealing the growing experience so that learning assets are required that can be utilized and used to help more excellent learning. Current facts on the ground show that: 1) Consumer Behavior is one of the courses in the Business Education Study Program, Faculty of Economics, Medan State University; (2) So far there has been no lecturer in the Business Education Study Program, Faculty of Economics, Medan State University who has written Consumer Behavior teaching materials; (3) Students need learning resources for Consumer Behavior courses; (4) Learning resources as an example of Consumer Behavior teaching materials that are by the Semester Learning Plan (RPS) and by student characteristics and needs do not yet exist.

Teaching materials are known as learning tools that are most widely used as a very effective educational tool for conveying material to learners in the process of education. Efforts that is taken to raise the standard of learning results of students in the Consumer Behavior course are implementing a project-based learning model. Lectures that apply a project-based learning model will result in collaboration between students and lecturers, learning in collaborative teams. When students study in teams, students will hone their planning, organizational, negotiation, and consensus-building skills about things to be done. By using a project-based learning model, backgrounds, abilities, and differences in characteristics of students in groups will provide mutual benefits and involve them in learning process activities in class meetings.

Implementation of learning requires effective learning methods where methods that involve students playing a role in the process of education will maximize the outcomes of students' understanding of the material presented. Apart from choosing the right teaching materials, to do this, a lecturer must also choose the right learning model, so that students feel the meaning of the material they are studying. One of them is the Project Based Learning model.

The Project Based Learning model is a learning model that permits pupils to work on their own or in groups to construct their learning and apply it to real products. An inventive approach to education called project-based learning places a strong emphasis on contextual learning via challenging tasks. It can be concluded that the Project Based Learning model

is a cutting edge approach to education where students develop their own knowledge and apply it to a real product through autonomous project work. Students are guided to develop, solve issues, make judgments, conduct investigative activities, and work in groups or individually on projects that involve intricate tasks based on extremely difficult topics and challenges. In accordance with the description provided, project-based learning-based teaching materials for the Consumer Behavior course will be created. This will enable students to apply consumer behavior theories to actual business situations.

## **2 Theoretical Studies**

### **2.1 Teaching Materials**

As stated by Prastowo (2015) [1], Teaching materials are any items (texts, information, or tools) that are organized methodically, show the full range of competences that students will need to acquire, and are used to plan and assess the application of learning. Textbooks, modules, workbooks, handouts, models, mockups, audio teaching resources, interactive teaching resources, and so forth are a few examples.

Some definitions of teaching materials as stated by the Ministry of National Education (2008) [2] :

- a. All types of resources that help teachers and instructors carry out teaching and learning activities are considered teaching materials. The content in question may be either written or spoken.
- b. An extensive image of the capacities that understudies will procure through learning exercises is introduced by showing materials, which are an assortment of instructive assets gathered purposefully.
- c. Textbooks, information, and instruments that teachers and instructors require to design and assess the application of their lessons are known as teaching materials.
- d. A collection of items that have been methodically arranged to provide a setting in which students may learn is known as teaching materials.

### **2.2 Learning Results for Consumer Behavior Courses**

Pupil learning results are impacted by inner and outside factors. Inside factors incorporate self-motivation, intelligence, and traits/personality. External factors include family factors, learning facilities, environment, and including the teaching received in class.

The learning outcomes discussed pertain to the learning objectives of pupils enrolled in the Consumer Behavior course. The nature of the content in this course necessitates engaging learning for students, as seen by the many concepts, principles, and methods covered.

One of the main tasks of lecturers is to provide positive elements to the student learning atmosphere so that students obtain good learning results. An effective learning environment through optimal learning, and supported by high learning motivation from students can

improve learning outcomes. By optimizing teaching materials related to consumer behavior, students as prospective entrepreneurs will gain extensive knowledge related to consumer behavior and sufficient skills to be able to use them in entrepreneurship in the future.

### **2.3 Preparing Teaching Materials for Consumer Behavior Courses Based on Project-Based Learning**

One type of innovative teaching material is the idea of creating project-based learning-based teaching materials for the Consumer Behavior Course. In this type of learning model, students conduct in-depth research on a subject. Through the application of research-based methodology to meaningful, authentic, and pertinent issues and concerns, students engage in constructive exploration or deepening of their learning. Students now participate in a variety of activities in addition to listening to their teachers explain the material: they observe, play out, demonstrate, and more.

Project-based learning is a learning method that emphasizes projects as a means of student learning. The project is based on real situations in the field so the obstacles faced are real obstacles faced in the field. This learning method is considered appropriate to apply to Consumer Behavior courses. The projects given aim to answer the main questions or problems on a topic so that students learn to find various alternative solutions to these various problems based on real situations. Project-based learning trains students to combine the basic knowledge they already have, with new knowledge obtained while working on projects to solve various existing problems. Project-based learning method has the following characteristics: (1) projects are centralized and are part of the curriculum, (2) projects are based on main questions and problems, (3) projects involve students, (4) projects are oriented towards students, and (5) the project is realistic in real life.

## **3 Research Methods**

### **3.1 Research Approach**

Research and development is the term for this kind of study (RnD). A research technique called "research and development" is used to create specific items and evaluate their efficacy [3]. Utilizing the ADDIE development model, this research process relates to the main process of preparing and developing a learning system with 5 (five) implementation stages, namely: (1) Analysis, (2) Design, (3) Development (4) Implementation, and (4) Evaluation. The reason for choosing the ADDIE model in this research is because the ADDIE model has a systematic process for instructional development, and provides possibilities for ongoing assessment and modification at each stage so the resulting textbook that is valid and reliable.

The stages of this research activity based on the ADDIE model can be characterized as:

1. Analysis

At the analysis step, there are types of activities carried out, namely:

- a. Performance Analysis in this step, problems in learning are raised and studied.

- b. Student Investigation: This is an examination of understudy attributes in light of Information and Abilities. This examination plans to decide the degree of capacities and requirements of different understudies.
- c. This analysis can be used as a reference for designing what materials will be presented in teaching materials, and what tasks students must complete.
- d. Instructional Investigation: In this stage, the information that should be acquired are the learning goals that not entirely set in stone, the capabilities required, the last targets of the course, graduate profiles, the educational plan that applies at the establishment, and the still up in the air by the foundation.
- e. Concepts, Principles, and Procedures of Educational Materials Analyzed: At this stage, the material in teaching materials will be conceptualized in a way hinge on data obtained from student analysis and instructional analysis, both for theory and practice.

## 2. Design

In the design stage, the activities carried out are:

- a. Developing a framework for the structure or content of book material: The structure or content of book material is designed based on data from analysis of concepts, principles, and procedures of learning material. At this stage, how many chapters of learning material will be presented in the teaching material is also designed.
- b. Designing student assignments: At this stage, student assignments are designed. What are the phases of execution, assortment, and working strategies.
- c. Designing evaluation utensil: At this stage, practice questions will be designed which will later be included in the teaching materials, because teaching materials should contain student worksheets. In this section, student Project Based Learning assignments are designed.

## 3. Development

At this point, the researcher follows the guidelines for creating quality textbooks while creating instructional materials in accordance with the designated design. This stage contains the realization of product design activities, namely teaching materials for the Consumer Behavior Course.

## 4. Implementation

At this stage, the books that have been prepared will be distributed to Business Education study program students class 2021 (Semester V) class A to test the content and readability of the textbooks. The main objectives in the implementation step include 1) Guiding students to achieve learning goals, 2) Ensuring problem-solving occurs to overcome problems previously faced by students in the learning process, and 3) Ensuring that at the end of learning, students' abilities increase.

## 5. Evaluation

Evaluation is the final stage of the ADDIE learning development system design model. In this research, the evaluation carried out consists of 2 (two) types, namely evaluation of student learning outcomes and evaluation of the teaching materials that have been prepared.

### **3.2 Data Analysis**

The data in this research is quantitative. The methods of data analysis employed in the research include 3 (three) types, namely Validity, Effectiveness, and Practicality

#### **1. Validity/Feasibility**

The purpose of the validation step is to evaluate the reliability of the research tools and instructional materials used. Professional validators evaluate the reliability of instructional resources. In addition, validators offer feedback and recommendations on instructional materials and research tools so that they may serve as a model for product revision and the creation of instructional materials fit for use in lectures. Using a validation sheet, the validity of instructional materials is evaluated. A Likert scale is used to quantify the outcomes of evaluating every area. Likert scales are psychometric measures that are frequently employed in surveys and comprise comments that are either positive or negative on an item[4]. Strongly agree, agree, disagree, and strongly disagree are the response options on the Likert scale.

#### **2. Effectiveness**

Effectiveness can be interpreted as the result that arises from an action, in this case, the effect of using materials in the Introduction to Business course on learning outcomes[5]. Testing for effectiveness is done to gauge how successful a learning process is. If instructional resources on consumer behavior have a positive influence on the learning objectives of students, then they can be considered successful. Effectiveness can refer to an impact, influence, outcome, or potential outcome.

A matched example t-test will be utilized in a little, restricted bunch preliminary utilizing a preceding later (balanced) exploratory plan to assess the viability of this educational material. Ten understudies who had completed the Buyer Conduct course made up the little example used to test the viability of learning media. The effect of educational materials on learning results when treatment is tried utilizing a preceding after exploratory plan. The speculation for this test, which utilizes a matched example t-test, is:

Ho: There is no difference in learning outcomes before and after treatment using Project-based Consumer Behavior teaching materials in the Consumer Behavior Course.

Ha: There are differences in learning outcomes before and after treatment using Project-based Consumer Behavior teaching materials in the Consumer Behavior Course.

With the criteria of accepting Ho, if the Sig value is  $> 0.05$  and rejecting Ho if the Sig value is  $< 0.05$ .

## **4 Results and Discussion**

All research activities include 5 stages, namely Analysis, Design, Development, Evaluation, and Implementation. The aftereffects of this exploration can be depicted:

### **4.1 Analysis**

At the analysis stage, types of activities completed are:

#### a. Curriculum Analysis

Curriculum analysis is a step to find out the curriculum that applies at the institution, namely Universitas Negeri Medan and the Business Education Study Program in particular. The purpose of carrying out this curriculum analysis is to find out the demands that apply to the curriculum so that they can be aligned with the teaching materials. Specifically for the tertiary level, the government has issued the Indonesian National Qualifications Framework (KKNI) as regulated in Presidential Regulation No. 8 of 2012. Thus, universities as producers of educated human resources need to ensure that their graduates comply with the learning outcomes that have been formulated in the KKNI curriculum levels. Based on Minister of Education and Culture Regulation Number 73 of 2013, The Indonesian National Qualifications Framework (KKNI) in the field of advanced education is a capability reviewing structure that can look at, balance, and coordinate gaining accomplishments from non-formal training, casual schooling, or potentially work insight into types and levels of advanced education. This means that it is not enough for students to just study in class, more than that, Students must study in the training or employment sector to achieve competent graduates by the nine levels of human resource qualifications. Universitas Negeri Medan has implemented the KKNI with these 6 KKNI tasks understudies are supposed to have the option to improve their work, skills, and creativity. Thus, the teaching materials for this Consumer Behavior Course will include 6 KKNI tasks by integrating project-based learning in groups (Project Team Based).

#### b. Instructional Analysis

At this point, the graduate profile and graduate competence criteria are the data that must be collected. Graduates of Universitas Negeri Medan's education study program typically become young entrepreneurs who are imaginative, inventive, productive, and endowed with moral qualities. They also possess management competence and are skilled in starting and growing a firm. The teaching resources for the Consumer Behavior Course should have the option to help the fulfillment of graduate profiles and graduate ability models that are appropriate to the, still up in the air by the educational examination.

#### c. Student Analysis

To ascertain the requirements and skill levels of diverse students in engaging with the learning process, student analysis is conducted. Open interviews were used to conduct student analysis. With students who were the objects of research, namely class A students, Semester 5, Business Education Study Program. Hinge on the outcomes of interviews, known to occur during the learning process, students need project-based teaching materials that are carried out in groups. This analysis can be used as a basis for designing the materials included in teaching materials, and what form of project students must work on in groups. In carrying out lectures, students also expect discussions related to current problems (cases), which are relevant to current pertinent to the present circumstances, in order for pupils to knowledge

of the business world. Every student has different characters and thinking abilities. It is also evident from the interview findings that students require a range of tasks, including both group and individual projects. While some students like studying in groups, others prefer to study alone. Thus, the Consumer Behavior book prepared in this research will contain the opinions of these students. However, some students prefer to study in groups. Thus, the Consumer Behavior book prepared in this research will contain the opinions of these students. However, some students prefer to study in groups. Thus, the Consumer Behavior book prepared in this research will contain the opinions of these students.

#### 4.2 Design

The Design Stage consists of designing a competency map for Course Learning Outcomes (CPMK), book material, and RPS MK Introduction to Business. Learning outcomes must of course support the learning achievements of Business Education study program graduates. The profile of Business Education Study Program graduates is to become professional teachers, but apart from that, Business Education Study Program graduates are expected to become business managers in management and entrepreneurship and are even expected to become MSME consultants.

#### 4.3 Development

At the development step, every design that has been determined at the Design stage will be realized. The progress carried out was to create a Project-Based Consumer Behavior Course book accompanied by a Case Method assignment.



Figure 1. Book Cover Design



The whole items in the Venture Based Customer Conduct book are ready by including KKNI undertakings (routine errands in light of contextual investigations, CBR, CJR), and with a fundamental spotlight on projects completed in gatherings (in Parts 6 to Section 10) and obviously, the items are pertinent to the requests educational program, graduate profile, graduate learning results, and course learning results. The next stage is the implementation stage.

#### 4.4 Implementation

##### a. Validity Test

After the Project-Based Consumer Behavior book was completed, the execution stage was completed, specifically the examination object. Notwithstanding, before the book is carried out, the book is approved first to decide the reasonableness of the book. At the validity test stage, there were 3 validators, namely Dr. Dede Ruslan, M.Si., Dr. Arwansyah, M.Si., and Dr. Sri Mutmainnah, M.Si. The overall assessment results of the three validators for testing the validity of the Project Based Consumer Behavior book is summarized :

**Table 1. Validator Assessment Conclusion**

No.	Validator	Aspect			Average	Decision
		Material	Present ation	Language		
1	Dr. Dede Ruslan, M.Si	94.12%	94.67%	90.77%	93.19%	Very Worth It
2	Dr. Arwansyah, M.Si	92.94%	97.33%	93.84%	94.70%	Very Worth It
3	Dr. Sri Mutmainnah, M.Si	90.59%	94.67%	92.31%	92.52%	Very Worth It
Average		92.55%	95.56%	92.30%	93.47%	Very Worth It

As a result, it can be said that the Project Based Consumer Behavior book is appropriate for usage, as both the overall validity of the book and the validity of each component fall between 91% and 100%.

##### b. Effectiveness Test

The efficacy test was conducted utilizing a pretest-posttest experimental design in three sessions to determine whether or not the use of the Project-Based Consumer Behavior Book influenced student learning results, namely on the material Product Strategy, Price Strategy, and Promotion Strategy. The class used as the research sample was Class A Semester 5, with 30 students studying Consumer Behavior. The research was conducted for one month, namely in August 2022. In order to measure student learning results prior to employing project-based consumer behavior teaching materials, a pretest was administered as part of the research. After the pretest is carried out, the lecturer provides material to students using the Project-Based Consumer Behavior book and provides project assignments. The lecturer administered a post-test at the conclusion of the course to compare the learning results of the students before and after they used the Project-Based Consumer Behavior book. To see whether there is an effect of applying the Project Based Consumer Behavior book, the Paired Sample Test data analysis method the Paired Sample Test data analysis method or Paired Sample T Test is used,

**Table 2. Paired Sample Test Calculation Results**

**Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PRE - POST	-13,85859	5,81069	1,24350	-16,39892	-11,49506	-11,243	29	,000

A parametric test that may be used to two sets of paired data is the paired T-test. Finding out whether the average of two paired or related samples differs is the aim of this test. Table 2 displays the outcomes of data processing with the Paired Sample T Test. H0 is rejected because, according to Table 2, the t-count value is 11.243 and the significance value is  $0.00 < 0.05$ . As a result, after utilizing the Project-Based Consumer Behavior book, student learning outcomes surpass those of the pretest by a substantial margin. This further demonstrates how the Project Based Consumer Behavior book may enhance the educational goals of students.

## 5 Conclusions

In view of the consequences of the examination, it tends to be presumed that the main product as a result of this research is the book (teaching material) Project- Based Consumer Behavior which will be used as a reference in courses in the Business Education Study Program. This Project-Based Consumer Behavior Book consists of 10 chapters, namely: (1) Marketing; (2) Consumer Behavior; (3) Consumer Behavior Model; (4) Consumer Purchase Decisions; (5) Consumer Motivation; (6) Marketing Strategy; (7) Product Strategy; (8) Pricing Strategy; (9) Distribution Channel Strategy; and (10) Promotion Strategy. Additionally, it has been determined that the project-based consumer behavior book (teaching material) that was prepared for students in the Business Education Study Program at the Faculty of Economics at Medan State University is feasible and appropriate for use in the classroom.

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